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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,327	07/08/2003	Dae Young Lee	9242-000029	9350

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EXAMINER

MICHENER, JENNIFER KOLB

ART UNIT PAPER NUMBER

1762

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,327

Applicant(s)

LEE ET AL.

Examiner

Jennifer K. Michener

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 4, 5 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-3 and 6 in the reply filed on 2/24/2005 is acknowledged.

Claim Objections

1. Claim 2 is objected to because of the following informalities: "particles is" is not proper grammar. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims lack antecedent basis for the following phrases:

Claim 1, line 2, "the hydrophilic porous structure",

Claim 1, lines 4-5, "the coating composition" and "the hydrophilic binders",

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Additionally "micro solid particles" is unclear. If Applicant intends the particles to be sized in the micron-range, Examiner suggests stating that "micro solid" is descriptive of a size.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Steele et al. (5,264,250).

Steele treats the surface of a wet surface heat exchanger to render it porous and hydrophilic by spraying or dipping a composition thereon, the composition comprising a hydrophilic binder and micron-sized solid particles (abstract; col. 1, lines 43 and 54; col. 2, lines 15-20, 33, 55; col. 3, lines 11, 14, 33, 64; col. 5, line 29 and line 52).

The solid particles of Steele are 6-14 microns, lying completely within Applicant's range.

Steele's coating inherently has a thickness and his binder inherently has a viscosity that is controlled, with the viscosity inherently affecting the thickness.

The heat exchanger of Steele's invention is assembled in advance.

Response to Arguments

6. In response to the restriction requirement, Applicant argues that Examiner indicated that claims 1-3 and 6 would be allowable if claims 4, 5, and 7 were non-elected and Applicant then asks for the withdrawal of rejections.

Examiner respectfully disagrees.

No rejections were made in the previous office action. Examiner merely requested an election be made. Examiner thanks Applicant for election of claims 1-3 and 6, which have been examined, above. However, Examiner did not indicate that claims 1-3 and 6 were allowable. Examiner notes that no traversal was made regarding the election.

Conclusion

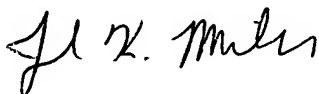
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rickert, Jr. is cited for teaching coating heat exchangers with colloidal particles in hydrophilic polymer binders and curing. Inbe et al. is cited for teaching coating heat exchangers to render them hydrophilic. Steele et al. '949 is cited for the same reasons as Steele '250 is applied, above. Lever et al. is cited for teaching a method of rendering heat exchanger surfaces hydrophilic through the use of a coating comprising a binder with alumina particles of less than 10 microns.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer K. Michener whose telephone number is (571) 272-1424. The examiner can normally be reached on Tuesdays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Michener
Primary Patent Examiner
Art Unit 1762
June 12, 2005